

Film and Composition Resistors 1163

PART II. FILM RESISTORS

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Film and Composition Resistors 1163

PART III. COMPOSITION RESISTORS 155

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AVAILABLE: Library of Congress

Card 7/7

JP/mfd
2-10-58

QAL MAIN, D.S.
AUTHOR: Breydo, I.

107-58-3-39/41

TITLE: A Useful Beginning (Poleznoye nachinaniye)

PERIODICAL: Radio, 1958, Nr 3, p 63 (USSR)

ABSTRACT: Recently a series of lectures was held in Leningrad on small-size radio parts. The lectures were organized by NTORiE imeni A.S. Popov. The lectures dealt with materials for producing small-size receivers, capacitors, resistors, transformers, induction coils, printed circuits and technological questions. Some of the most interesting lectures were: "Physics and Technology of Electrotechnical Materials Used in the Manufacture of Radios" by N. Bogoroditskiy; "Capacitors Made of Paper and Tape" by L. Zakgeym; "Non-wire Resistors" by B. Gal'perin; "Magnetic Materials" by V. Mes'kin. In the reports it was pointed out that there is a tendency to reduce the dimensions of the radio parts. Tantalum capacitors were listed as example for the effort made in this direction. However, there are certain obstacles.

Card 1/2

A Useful Beginning

107-58-3-39/41

cles in the development of new, small-size parts. Frequently, such parts are not manufactured immediately after their development is completed, because there are no orders from the consumers who do not know that these parts have been developed. Therefore it is necessary to publish information on new developments in periodicals on electronics, radio engineering, etc.

1. Radio equipment--Miniatureization

Card 2/2

5(4)

SOV/69-21-4-8/22

AUTHOR: Gal'perin, B.S. and Soldatova, L.P. (Leningrad)

TITLE: Orientation Effect in Lacquer Films With Carbon-Black Filler

PERIODICAL: Kolloidnyy zhurnal, 1959, Vol XXI, Nr 4, pp 415-418 (USSR)

ABSTRACT: This is a study of the phenomenon of anisotropy of electric conductivity, which can be observed in carbon black lacquer films obtained by dipping the film support into solution. The experiments were carried out with small marble rods 20 mm long and 4 mm thick. The thickness of the coating did not exceed $5-7\mu$. The black carbon concentration in the film varied from 8 to 15%. Electric conductivity was measured along the rods, i.e. in the direction of running of the suspension. Other measurements, perpendicular to the mentioned direction, were made possible by grinding out a spiral around the rods. The results of both kinds of measuring(resistance) were evaluated in surface units (equations 2 and 3.)The coefficient of anisotropy was determined (equation 4). The experiments have shown

Card 1/2

SOV/69-21-4-8/22

Orientation Effect in Lacquer Films With Carbon-Black Filler

that anisotropy of electric conductivity of carbon black lacquer films obtained in the above described way is connected with orientation of the carbon black chains in the direction of running of the suspension. The anisotropy increases at an increase in the rate of drying of the film, and diminution of its carbon black content. The orientation effect in the films can be eliminated by introducing a small quantity of plasticizer into the solution. There are 3 graphs and 1 photograph.


SUBMITTED: March 1, 1958

Card 2/2

GAL'PERIN, B.S. (Leningrad); SOLDATOVA, L.P. (Leningrad)

Orientation effect in lacquer films with a carbon-black filler.
Koll.shur. 21 no.4:415-418 J1-Ag '59. (MIRA 13:8)
(Lacquers and lacquering) (Carbon black)

TEST AND FIND GROUPS																										PROCESSES AND PREPARATION INDEX																									
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<p>GALPERIN, D. I.</p> <p>Effect of chemical preparation of linter on the viscosity of the resulting cellulose and its nitrates. D. I. GALPERIN AND D. I. TUMANKIN. <i>J. Applied Chem. (U.S.S.R.)</i> 5, 34-42(1932).—Exptl. results presented in graphs and tables show that viscosity of linter in ammoniacal Cu solns. is the only important characteristic for all practical purposes. Other tests may become valuable only for very low grades of linter.</p> <p>V. KALICHURNEV</p>																																																			
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A B C D E F G H I J K L M N O P Q R S T U V W X Y Z AA AB AC AD AE AF AG AH AI AJ AK AL AM AN AO AP AQ AR AS AT AU AV AW AX AY AZ BA BB BC BD BE BF BG BH BI BJ BK BL BM BN BO BP BQ BR BS BT BU BV BW BX BY BZ CA CB CC CD CE CF CG CH CI CJ CK CL CM CN CO CP CQ CR CS CT CU CV CW CX CY CZ DA DB DC DD DE DF DG DH DI DJ DK DL DM DN DO DP DQ DR DS DT DU DV DW DX DY DZ EA EB EC ED EE EF EG EH EI EJ EK EL EM EN EO EP EQ ER ES ET EU EV EW EX EY EZ FA FB FC FD FE FF FG FH FI FJ FK FL FM FN FO FP FQ FR FS FT FU FV FW FX FY FZ GA GB GC GD GE GF GG GH GI GJ GK GL GM GN GO GP GQ GR GS GT GU GV GW GX GY GZ HA HB HC HD HE HF HG HH HI HJ HK HL HM HN HO HP HQ HR HS HT HU HV HW HX HY HZ IA IB IC ID IE IF IG IH II IJ IK IL IM IN IO IP IQ IR IS IT IU IV IW IX IY IZ JA JB JC JD JE JF JG JH JI JJ JK JL JM JN JO JP JQ JR JS JT JU JV JW JX JY JZ KA KB KC KD KE KF KG KH KI KJ KL KM KN KO KP KQ KR KS KT KU KV KW KX KY KZ LA LB LC LD LE LF LG LH LI LJ LK LL LM LN LO LP LQ LR LS LT LU LV LW LX LY LZ MA MB MC MD ME MF MG MH MI MJ MK ML MN MO MP MQ MR MS MT MU MV MW MX MY MZ NA NB NC ND NE NF NG NH NI NJ NK NL NO NP NQ NR NS NT NU NV NW NX NY NZ OA OB OC OD OE OF OG OH OI OJ OK OL OM ON OO OP OQ OR OS OT OU OV OW OX OY OZ PA PB PC PD PE PF PG PH PI PJ PK PL PM PN PO PP PQ PR PS PT PU PV PW PX PY PZ QA QB QC QD QE QF QG QH QI QJ QK QL QM QN QO QQ QR QS QT QU QV QW QX QY QZ RA RB RC RD RE RF RG RH RI RJ RK RL RM RN RO RP RQ RR RS RT RU RV RW RX RY RZ SA SB SC SD SE SF SG SH SI SJ SK SL SM SN SO SP SQ SR SS ST SU SV SW SX SY SZ TA TB TC TD TE TF TG TH TI TJ TK TL TM TN TO TP TQ TR TS TT TU TV TW TX TY TZ UA UB UC UD UE UF UG UH UI UJ UK UL UM UN UO UP UQ UR US UT UU UV UW UX UY UZ VA VB VC VD VE VF VG VH VI VJ VK VL VM VN VO VP VQ VR VS VT VU VW VX VY VZ WA WB WC WD WE WF WG WH WI WJ WK WL WM WN WO WP WQ WR WS WT WU WV WW WX WY WZ XA XB XC XD XE XF XG XH XI XJ XK XL XM XN XO XP XQ XR XS XT XU XV XW XX XY XZ YA YB YC YD YE YF YG YH YI YJ YK YL YM YN YO YP YQ YR YS YT YU YV YW YX YY YZ ZA ZB ZC ZD ZE ZF ZG ZH ZI ZJ ZK ZL ZM ZN ZO ZP ZQ ZR ZS ZT ZU ZV ZW ZX ZY ZZ																									
GALPERIN, D.																									
Processes and Properties																									
<p>  Linters from different Russian districts for nitrating purposes. D. I. GALPERIN AND D. I. TUMANKIN. <i>J. Applied Chem.</i> (U. S. S. R.) 9, 81-84 (1932).—Russian linter from different districts is very uniform in quality and its classification into grades for nitrating purposes is superfluous. </p>																									
<div style="text-align: right;">23</div>																									
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION																									
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GALPERIN, D. J.]

ca

23

Comparative experiments on bleaching cotton cellulose with solutions of calcium and sodium hypochlorites. D. Galperin, D. Tumanin and B. Kuzovskii. *Applied Chem.* (U. S. S. R.) 6, 501-51 (1963). Ca(OCl)₂ solns. are distinguished from those of NaOCl having the same original content of active Cl by a higher "activity," i. e., higher bleaching and oxidizing powers, the difference being particularly noticeable when NaOCl solns. are used with an excess of alkali. The consumption of the active Cl is in the following decreasing order: Ca(OCl)₂ soln., "neutral" soln. of NaOCl and "alk." soln. of NaOCl. The difference in the bleaching power of the solns. is particularly noticeable for low concns., disappearing for the high ones. The destructive power of the solns. in bleaching is evident only for severe conditions such as a temp. of 30°. Since the effect of all the solns. is the same, preference should be given to the most economical. A. A. B.

ASB, S.A. METALLURGICAL LITERATURE CLASSIFICATION

GALPERIN, D. I.

PROCESSES AND PROPERTIES INDEX

Classification of purified cotton fiber according to its viscosity. Preparation of colloxylin of various viscosities. D. Galperin and D. Tumarkin. *J. Applied Chem.* (U. S. S. R.) 6, 850-68(1953).—A uniform method has been developed for the regulation of the viscosity of purified cotton cellulose based on modifications of the alkali treatment. It is not advisable to use bleaching for this purpose or to give a special treatment, e. g., boiling in dil. H_2SO_4 . A project is proposed for a standard classification for bleached cotton cellulose according to its viscosity. In this classification the brands are arranged in accordance with the alkali treatment they received, a treatment which will assure the attainment of the corresponding viscosity limits of the cuprammonia soln. of the purified cellulose. The basic factors which govern the viscosity of the nitrocellulose at a given N content are the viscosity (grade) of the original cotton cellulose and the nitration temp. A table is given showing the characteristic relation of the viscosity of the nitrate to that of the original cotton cellulose, the nitration temp. (30–40°) and the N content (11–11.8%). The viscosity depends also on the stabilizing conditions (duration of boiling) (data are tabulated). A rational technological process can be selected by studying the 3 factors, i. e., viscosity of the original cotton cellulose, the nitration temp. and the stabilization; this permits prepn. of colloxylin of desired properties. For the prepn. of colloxylin with a viscosity below 1.4–1.5°

Engler (below 7–10° by the American method) (a conversion table is given); special methods of treating the nitrocellulose during stabilization are recommended. The best methods were: (1) boiling in pure water under pressure; (2) boiling in dil. aq. solns. of NH_4OH ; and (3) boiling in a high-boiling inert liquid ($C_2H_5(CH_2)_5$). The first 2 methods should be given preference. They permit the use of high-viscosity cotton cellulose for the original material. Boiling in water under pressure is of primary importance in the manuf. of "half second" colloxylin. A. A. Bochtlinak

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

SECTION 17: 03174

101000 HIF QNY 001

031127001

SECTION 17: 03174

031127 001 QNY 101

PROCESSING AND PROPERTIES INDEX																									
MATERIALS													PROPERTIES												
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<p>HALPERIN, D.</p> <p>Technology of colloxylin. II. D. Halperin and K. Dryagalova. <i>Org. Chem. Ind. (U.S.S.R.)</i> 2: 336-41 (1966).--Discussion of the influence of HNO₃ concn., the presence of N oxides in nitrating acid, wringing technic and water hardness in the production of colloxylin, completely sol. without turbidity and opalescence, is based on literature and some preliminary expts. Chas. Blanc</p>																									
<p>ASB-51A METALLURGICAL LITERATURE CLASSIFICATION</p>																									
<p>6-2-72</p>																									

GAL'PERIN, D.I.

GAL'PERIN, D.I. (g. Molotov oblastnoy) MOSEYEV, L.I. (g. Molotov oblastnoy)

Heat of swelling and heat of solution of nitrocellulose. Koll.zhur.
19 no.2:167-171 Mr-Ap '57. (MLRA 10:5)
(Nitrocellulose)

GAL'PERIN, D.I. (Perm'); MOSHEV, V.V. (Perm'); STEPANOVA, V.G. (Perm')

Thermal and mechanical properties of plasticized ethyl cellulose.
Koll. zhur. 23 no.1:8-11 Ja-F '61. (MIRA 17:2)

L 08909-67 EWT(m)/EWP(j) RM
ACC NR: AP6023066 (A) SOURCE CODE: UR/0191/66/000/004/0041/0043

AUTHOR: Gal'perin, D. I.; Khamzin, S. I.; Stepanov, Ye. S. 27

ORG: none

TITLE: Mechanical properties of ethylcellulose plastics

SOURCE: Plasticheskiye massy, no. 4, 1966, 41-43

TOPIC TAGS: solid mechanical property, cellulose plastic, plasticizer

ABSTRACT: The authors studied the effect of the degree of substitution (ethylation) of ethylcellulose and of the concentration of different plasticizers on the mechanical properties of plasticized ethylcelluloses. The experiments were carried out with ethylcellulose samples containing 25% plasticizer (dibutyl phthalate, dioctyl phthalate, or tricresyl phosphate) and 1% diphenylamine antioxidant. Within the degree of substitution of 2.3-2.5, the glass transition temperature, tensile strength, and range of elasticity decreased regularly and the elongation at break and cold resistance increased. Experiments on the dependence of the temperature of the glass (T_g) on the concentration of plasticizer showed an equivolumetric relationship between the plasticizer concentration and T_g . This relationship is expressed by the empirical equation $T_g = 182 - 3.64c_{vol}$, where c_{vol} is the concentration of a plasticizer in volume %. Orig. art. has: 5 fig. and 2 tables.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 002
Card 1/1 UDC: 678.546.2.01 : 539.3

GAL'PERIN, E. A.

PA 75760

USSR/Medicine - Scarlet Fever
Medicine - Penicillin

Apr 1948

"Treatment of Scarlet Fever With Penicillin," E. A.
Gal'perin, Moscow, 2 pp

"Sov Meditsina" No 4

Discusses results obtained from studies on some 800
scarlet fever cases treated by many methods. Peni-
cillin therapy was found to be most effective;
although not considered a specific therapy, it can
be considered a pathogenetic therapy.

75760

Mar/Apr 49

USSR/Medicine - Scarlet Fever
Medicine - Sulfanilamide and Sul-
fanilamide Derivatives

"Is It Worth While to Use Streptocide for Scarlet
Fever?" E. A. Gal'perin, Clinic of Infectious
Diseases, Cen Inst for Advancement of Doctors; Ord
of Lenin Hosp imeni Botkin, 4 pp

"Pediatriya" No 2

Clinical study of scarlet fever treatment indicated
that streptocide had no antipyretic actions and no
effect on the recurrence of critical symptoms.
Also observed an absence of preventive action

41/49T79

10

Mar/Apr 49

USSR/Medicine - Scarlet Fever (Contd)

against complications. Use of streptocide for
scarlet fever is not justifiable and must be dis-
continued.

41/49T79

10

GAL'PERIN, E.A.

R 41/49T79

E.
GAL'PERIN, Ye.A.

Treatment of relapsing fever with neosalvarsan preparations.
Klin.med., Moskva no.4:64-71 Ap '50. (CLML 19:3)

1. Of the Clinic of Infectious Diseases (Head -- Prof. G.P.Rudnev) of
the Central Institute for the Advanced Training of Physicians and
of the Hospital imeni Botkin, Moscow.

GAL'PERIN, Ye.A.; RYSKIND, R.R.; PERSHIN, G.N.

Application of synthomycin in erysipelas. Klin. med., Moskva 31 no.6:
68-70 June 1953. (CML 25:1)

1. Of the Clinic for Infectious Diseases (Head -- Prof. G. P. Rudnev),
Central Institute for the Advanced Training of Physicians.

GAL'PERIN, Efraim Aleksandrovich

Academic degree of Doctor of Medical Sciences, based on his defense, 22 February 1955, in the Council of the Central Inst for the Advanced Training of Physicians, of his dissertation entitled: "Materials on the Pathogenesis and Treatment of Scarlet Fever."

Academic degree and/or title: Doctor of Sciences

SO: Decisions of VAK, List no. 16, 2 Jul 55, Byulleten' MVO SSSR, No. 15, Aug 56, Moscow, pp 5-24, Uncl. JPRS/NY-537

GALPERIN, DR. E. A.

TETANUS

"Tetanus", by Doctor of Medical Sciences E.A. Galperin, Zdorov'ye, No 5, May 1957, p 20.

This popular type article reports that tetanus is an acute infectious disease caused by a toxin produced in the human body by a genus of Bacillaceae, which are anaerobic spore-bearing gram-positive rods. The symptoms of this disease are described in detail. Dr. Galperin concludes that a prophylactic vaccination is the most efficient means of fighting tetanus.

Card 1/1

- 75 -

Country : USSR
Category: Virology. Viruses of Man and Animals. Rickettsias.

E

Abstr Jour: Ref Zhur-Biol., No 23, 1958, No 103580

Author : Gal'perin, E. A.

Inst : -

Title : The Clinic, Therapy and Pathogenesis of Polycyclic
(Five-Day Fever) and Paroxysmal Rickettsial Diseases

Orig Pub: Sb. Lecheniye infelits. bol'nykh. No 3, Moscow, 1957,
20-30.

Abstract: No abstract.

Card : 1/1

GAL'PERIN, E.A., doktor med.nauk

Clinical aspects, treatment and pathogenesis of polycyclical (five-day fever) and paroxysmal rickettsiosis. Lech. infekts. bol'. no.3: 20-30 '57. (MIRA 14:5)

(RICKETTSIAL DISEASES)

GAL'PERIN, E.A., doktor med.nauk; YEREMENKO, A.V., kand.med.nauk

Treatment of typhus fever with some antibiotics. Lech. infekts.
bol'. no.3:31-48 '57. (MIRA 14:5)
(TYPHUS FEVER) (ANTIBIOTICS)

EXCERPTA MEDICA Sec 4 Vol.11/9 Microbiology Sep 58

2152. RICKETTSIOSIS QUINTANA (5-DAY FEVER): PATHOGENESIS, CLINICAL PICTURE AND DIAGNOSIS (Russian text) - Galperin E. A. - Z. MIKRO-BIOL. 1957, 6 (62-66) Graphs 1

The disease was known to occur in epidemic form during the 1st and 2nd world wars, but it never disappeared entirely and is diagnosed sporadically. The disease is characterized by a polycyclic course with several febrile attacks each from 1-7 days' duration. In 50% of cases a roseolar skin rash was observed. The disease, which is accompanied by headaches, muscular pains, hyperaemia of the face, conjunctivitis and general malaise, lasts 3-6 weeks. The causative agent is Rickettsia quintana, which may persist in the circulating blood 2-3 months and even 1.5 yr. in viable form.

Anigstein - Galveston, Tex. (L, 6, 4)

GAL'PERIN, E.A., doktor med.nauk

Role of streptococcal allergy in scarlet fever. *Pediatrics* no.8:
19-24 Ag '57. (MIRA 10:12)

1. Iz kliniki infektsionnykh bolezney (zav. - deystvitel'nyy chlen
AMN SSSR prof. G.P.Rudnev) Tsentral'nogo instituta usovershenstvo-
vaniya vrachey i bol'nitsy imeni S.P.Botkina (glavnyy vrach -
prof. A.N.Shabanov)

(SCARLET FEVER) (STREPTOCOCCUS) (ALLERGY)

GAL'PERIN, E.A.

~~"Chart for differential diagnosis of the most important acute
infectious diseases" by A.F.Bilibin. Reviewed by E.A.Gal'perin.
Sov.med. 21 no.1:156-157 Ja '57. (MLRA 10:6)~~
(COMMUNICABLE DISEASES) (DIAGNOSIS)
(BILIBIN, A.F.)

GAL'PERIN, E.A.

USSR/Virology - Human and Animal Viruses.

E-3

Abs Jour : Ref Zhur - Biol., No 4, 1958, 14601

Author : Gal'perin, E.A.

Inst : -

Title : Polycyclic Rickettsia (5-day Fever). Pathogenesis,
Clinical Treatment and Diagnosis.

Orig Pub : Zh. mikrobiol., epidemiol. i immunobiologii, 1957, No 6,
62-66

Abstract : No abstract.

Card 1/1

GAL'PERIN, E.A., KUZICHEVA, L.R., AKILOV, A.A.

Intranasal vaccination against influenza A2. Vop.virus. 3 no.5;
305-306 S-) '58 (MIRA 11:10)

1. Kafedra infektsionnykh bolezney Tsentral'nogo instituta usoverasheniya
vaniya vrachev, Moskva.

(INFLUENZA, immunology.

A2, vaccine for intranasal admin (Rus))

GAL'PERIN, E.A., prof. (Moskva)

Is there a basis for I.Z.Kopshitzer's conclusions in the article
"Neuropsychic disorders in spirochetal jaundice?" Klin.med. 36
no.3:144-145 Mr '58. (MIRA 11:4)
(WEIL'S DISEASE)

GAL'PERIN, E.A., doktor med.nauk

~~_____~~
Tetanus. Zdorov'e 5 no.6:28 Je '59.
(TETANUS)

(MIRA 12:11)

GAL'PERIN, E.A.

Current status of the problem of erysipelas and further problems in
the control of this infection. Zhur.mikrobiol.epid.i immun. 31
no.1:125-130 Ja '60. (MIRA 13:5)
(ERYSIPELAS prev. & control)

GAL'PERIN, E.A., prof.; YEREMENKO, A.V., kand.med.nauk

Treatment of typhus fever with antibiotics and hormone preparations.
Report No.4: Treatment with levomycetin. Lech. infekts. bol'. no.4:
126-143 '60. (MIRA 14:5)
(TYPHUS FEVER) (CHLOROMYCETIN) (ACTH)
(CORTISONE)

GAL'PERIN, E.A.; YEREMENKO, A.V.

Treatment of typhus patients with a combination of ACTH or cortisone and oxytetracycline. Antibiotiki 5 no.2:105-110 Mr-Apr '60.
(MIRA 14:5)

1. Klinika infektsionnykh bolezney (zav. - deystvitel'nyy chlen
AMN prof. G.P.Rudnev) Tsentral'nogo instituta usovershenstvovaniya
vrachey.

(TYPHUS FEVER)
(ACTH)

(TERRAMYCIN)
(CORTISONE)

GAL'PERIN, E.A., (Moskva)

Clinical aspects of influenza and associated problems. Klin.med. 36
no.5:48-56 My '58 (MIRA 11:7)
(INFLUENZA,
clin. aspects (Rus))

GAL'PERIN, Efraim Aleksandrovich; KARON, I.I., red.; PETROVA, N.K.,
tekh. red.

[Clinical aspect of smallpox and vaccination reactions] **Klinika**
ospy i privivochnykh reaktsii. Moskva, Medgiz, 1962. 157 p.
(MIRA 16:3)

(SMALLPOX)

GAL'ILIN, E.A.; KRASOVITSKIY, Z.I.; VORONTSOV, G.Ya., LEADERS.

Observations of vaccinations against influenza A. Trudy 191-68.
64-67 '64. (MIRA 18:5)

GAL'PERIN, E.A.; BULDAKOVA, A.A.; LIZGUNOVA, A.V.

Clinical aspects of the outbreak of influenza A₂ in January 1962.
Trudy TSIU 68:167-171 '64. (MIRA 18:5)

GAL'PERIN, E.A.

Clinical classification of acquired toxoplasmosis. Trudy
TSIU 80:154-155 '65. (MIRA 18:11)

GAL'PERIN, E.A., prof.

Did the patient with Behcet's syndrome, described by B.I. Krasnov and I.S. Kamenetskii, have toxoplasmosis? Vest. dermat. i ven. no.3:77-78 '65. (MIRA 18:11)

1. Klinika infektsionnykh bolezney (zav. - deystvitel'nyy chlen AMN SSSR prof. G.P. Rudnev) Tsentral'nogo instituta usovershenstvovaniya vrachey, Moskva.

GAL'PERIN, E.I., Cand Med Sci -- (diss) *Opinions on the* "Attempt at diagnosis and
treat^{ment of} portal hypertension." Mos, 1959, 16 pp (First Mos Order of
Lenin Med Inst im I.M. Sechenov) 200 copies (KL, 36-59, 118)

- 84 -

PETROV, B.A., prof.; GAL'PERIN, E.I., doktor

Diagnosis and treatment of portal hypertension. Khirurgiia
35 no.12:32-38 D '59. (MIRA 13:6)

1. Iz Moskovskogo gorodskogo nauchno-issledovatel'skogo instituta skoroy pomoshchi imeni N.V. Sklifosovskogo (dir. - zasluzhennyy vrach USSR M.M. Tarasov).
(HYPERTENSION PORTAL)

GAL'PERIN, E.I., kand.med.nauk; SHCHERBATENKO, M.K., kand.med.nauk

Single-stage splenoportography in portal hypertension. Khirurgia
36 no.10:132-134 0 '60. (MIRA 13:11)

1. Iz Moskovskogo gorodskogo nauchno-issledovatel'skogo instituta
skoroy pomoshchi imeni N.V. Sklifosovskogo (nauchnyy rukovoditel' -
zasluzhennyy deyatel' nauki prof. B.A. Petrov, dir. - zaslužen-
nyy vrach USSR N.M. Tarasov).
(HYPERTENSION) (ANGIOGRAPHY)

RUDENSKAYA, M.V., kand.biologicheskikh nauk; GAL'PERIN, E.I., kand.med.nauk

Some functional and morphological changes in the liver deprived
of the portal blood. Sov.med. 25 no.4:105-112 Ap '61.

(MIRA 14:6)

1. Iz eksperimental'noy laboratorii (zav. - kandidat meditsinskikh
nauk V.S.Dashkovskaya) Nauchno-issledovatel'skogo instituta
imeni Sklifosovskogo (dir. - zasluzhennyy vrach USSR M.M.Tarasov).
(LIVER) (PORTAL VEINS)

GAL'PERIN, E.I., kand. med. nauk; SHCHERBATENKO, M.K., kand. med. nauk

Simultaneous examination of the portal and the biliary
systems (splenoportocholangiography). Khirurgiia 39
no.8:63-65 Ag '63. (MIRA 17:6)

1. Iz Moskovskogo gorodskogo nauchno-issledovatel'skogo
instituta skoroy pomoshchi imeni N.V. Sklifosovskogo
(nauchnyy rukovoditel' - chlen-korrespondent AMN SSSR,
zasluzhennyy deyatel' nauki prof. B.A. Petrov, direktor -
zasluzhennyy vrach UkrSSR M.M. Tarasov).

GAL'PERIN, E.I.; TEMKIN, O.M.

Roentgenological and manometric examination of the bile ducts during surgery. Khirurgiia 39 no.11 15-21 N '63.

(MIRA 17:11)

1. Iz Moskovskogo gorodskogo nauchno-issledovatel'skogo instituta skoroy pomoshchi imeni N.V. Sklifosovskogo (nauchnyy rukovoditel' - chlen-korrespondent AMN SSSR zasluzhennyy deyatel' nauki prof. B.A. Petrov) i kafedry gosital'noy khirurgii (zav. - zasluzhennyy deyatel' nauki prof. M.K. Chachava) pediatricheskogo i sanitarno-gigiyenicheskogo fakul'teta Tbilisskogo meditsinskogo instituta.

GAL'PERIN, Eduard Izrailevich; OSTROVSKAYA, Inna Mironovna;
PISAREVSKIY, A.A., red.

[Contrast examination in surgery on the biliary tract]
Kontrastnoe issledovanie v khirurgii zhelchnykh putei. Mo-
skva, Meditsina, 1964. 163 p. (MIRA 17:4)

PETROV, B.A., prof.; GAI'PERIN, E.I., kand. med. nauk

Choledochotomy in chronic and acute cholecystitis. Khirurgiya
40 no.2:58-65 F '64. (MIRA 17:7)

I. Institut skoroy pomoshchi imeni N.V. Sklifosovskogo
(direktor M.M. Tarasov), Moskva.

GAL'PERIN, E.I., kand. med. nauk

Bilirubin test in the differential diagnosis of mechanical
and parenchymatous jaundice. Khirurgiya 40 no.3:56-60 Mr '64.
(MIRA 17:9)

1. Moskovskiy gorodskoy nauchno-issledovatel'skiy institut imeni
Sklifosovskogo (nauchnyy rukovoditel' - chlen-korrespondent AMN
prof. B.A. Petrov).

GALPERIN, F.I.

DECEASED
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1962/6

SEE ILC

SHOE INDUSTRY

L 20707-65 EWT(m)/EPF(s)/EWP(j) Pe-4/Pr-4 EAZM(1) RM

ACCESSION NR: AR3010298

S/0081/63/000/012/0726/0726

SOURCE: RZh. Khimiya, Abs. 12T372

AUTHOR: Gal'perin, F. I., Ol'shevskaya, Ye. S., Insarova, A. V. B

TITLE: Viscous flow properties of rubber and rubber mixtures

CITED SOURCE: Nauchno-issled. tr. Ukr. n.-i. in-t kozh.-obuvn. prom-sti, sb. 13, 1962, 192-205

TOPIC TAGS: rubber flow, rubber viscosity, synthetic rubber, rubber extrusion, styrene, plasticizer, sulfur content, SKS rubber, SKN rubber, SKI rubber, NK rubber

TRANSLATION: The authors studied changes in the index of viscosity of rubber and rubber mixtures. In order to determine the index of viscosity, they used a piston, in the center of which there was a capillary through-hole, 2 mm in diameter, for extrusion of the rubber mixture. The viscosity was determined from the height of the extruded rod and from the kinetics of its formation, as well as from the time required for extrusion of a column of rubber 3 mm high. NK, SKS-30, SKS-40, SKN-50 and SKI rubber were tested at 20 and 160 ± 3C. The lowest viscosity was

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ACCESSION NR: AR3010298

shown by SKI rubber, that of NK rubber being 2.5 times as high. Due to the significant branching of its structure, SKS-30 is characterized by a relatively high viscosity. The viscosity is decreased by plasticizing or an increase in the styrene concentration. The transition to the visco-fluid state during heating increases the fluidity of NK rubber 10 fold, and that of SKI and SKN-40, 5 fold. At 160C, the nature of the curves of 3-hour flow shows a tendency towards further growth. Sulfur acts as a plasticizing agent, increasing the fluidity by 30% at 20C. Comparative experiments on the outflow of rubber through an orifice 2 mm in diameter showed that there is no increasing-inhibition in a capillary tube. Rubber mixtures made with plasticized or non-plasticized SKS-30 had a viscosity which was about equal to the viscosity of the rubber from which they were made.
Yu. Vilents

SUB CODE: MI

ENCL: 00

Card 2/2

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCEDURES AND PROPERTIES INDEX																										METALLURGICAL LITERATURE CLASSIFICATION																									
<p>HALPERIN, F.</p> <p><i>Handwritten: m</i></p> <p>Absorption and scattering of x-rays. D. Harkins and F. Halperin. <i>Physik. Z. Supplement</i> 7, 175 (1935); <i>A. C. A.</i> 20, 1001. A theoretical expression is derived for ν/ρ, the coeff. of true photoelectric absorption, which requires $(\nu/\rho)^{1/2}$ to be a linear function of $1/\lambda$. For long λs, good agreement is found with the exper. results of others. As λ decreases, the increasing difference between the straight line and the observed curve results from scattering. Values of the scattering coeff. σ/ρ found in this way for various metals increase with increasing at. no. of the metal.</p> <p style="text-align: right;">C. D. West</p>																										<p>3</p>																									

MAL'PERIN, F.

The dielectric constant for x-rays. F. Mal'perin. J.
Exptl. Theoret. Phys. (U. S. S. R.) 7, 1379-72 (1937).
Theoretical-mathematical. F. H. Rathmann

ADDITIONAL METALLURGICAL LITERATURE CLASSIFICATION

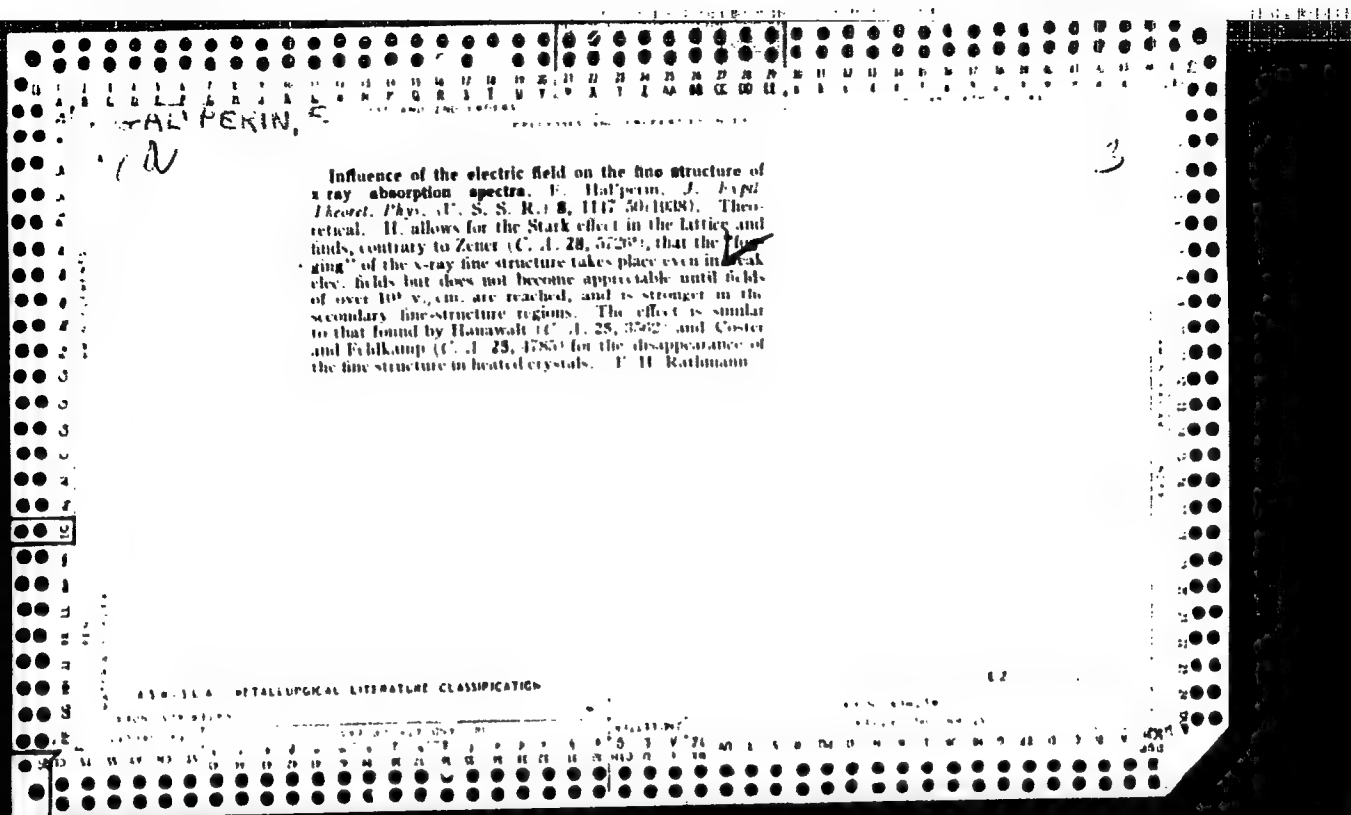
BC

12-1

Work of the electromagnetic field in the dynamic theory of Röntgen interference and according to quantum mechanics. F. GALTAREL (Physikal. Z. Sovietunion, 1937, 11, 102—103).—The work of the electromagnetic field in any given element of the crystal lattice space during one oscillation is zero by the interference theory of Laue and others, but not by quantum mechanics.

A. E. M.

AS 8-314 METALLURGICAL LITERATURE CLASSIFICATION



"Divergency in the Higher Approximations in Quantum Electro-Dynamics," Zhur. Esper. i Teoret. Fiz., 9, No. 12, 1939.

HAL'PERIN, F.		9	
<p>Improving structural carbon steel. A. P. Gulyaev and F. M. Hal'perin. <i>Stal</i> (N. S.), 3, No. 5, 49-51 (1943).</p> <p>-To improve C steel without introducing alloying components, steel was deoxidized by means of borax contg. 5% of Mg turnings as activator and by means of an alloy produced by melting Al, Fe-V and Fe-Ti taken in equal wt.; the compn. of this alloy was Fe 61.0, Al 11.34, Si 2.0, Ni 2.0, Ti 0.0 and V 10.5%. The deoxidizer was added in the amt. of 500 g. per ton of steel 1-2 min. before tapping. Before addn. of the special deoxidizer, Fe-Si in the amt. of 2 kg. per ton was used. Steel deoxidized with the special deoxidants was superior to the steel deoxidized with Al. The improved qualities were more pronounced in specimens of large cross-sectional dimensions.</p> <p>M. Hosh</p>			
<p>Physics, Metallurgy. Mbr., Moscow Aviation Inst. im Grdzhonikidze, -1943-;</p> <p>Stalin 3rd Prize, 1942, New grades of steel, economical in their use of ferralloys.</p>			
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>			

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
BC										A-2									
<p>Reaction between oxygen and iron, Y. S. Chen, U. S. Bureau of Mines, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, </p>																			

12

HALPERIN, F.

Concerning Interatomic Voids in Metals in Connection
with Ferromagnetism. F. Halperin. *Reports of the
Academy of Sciences of U.S.S.R.* v. 61, no. 7, 1946,
p. 509-510.

Mem., Metallurgical Inst. Im. Baykov, Dept. Tech. Sci., Acad. Sci.,
-1945-46-

ABR-55A METALLURGICAL LITERATURE CLASSIFICATION

MATERIALS INDEX		COLLECTIONS	
OPEN	CLOSED	ABR-55A	ABR-55B
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97	98	99	100

1ST AND 2ND ORDERS																										105 AND 17th ORDERS																									
PROCESSES AND PROPERTIES INDEX																																																			
SA																										A53																									
<p>599.153:538.114 2953</p> <p>On ferromagnetism and the effective interatomic distances in metals. GALTBERG, E.M. <i>U.S.S.R. Acad. Sci. USSR, 94 (No. 7) 517-12 (1946)</i>.--The radii R and r of the max. radial charge densities of the external S shell and internal incomplete d shell of transition metal atoms are calculated using Slater's formula [Ahar, 3996 (1939)]. For Cr, Mn, Fe, Co, Ni the values of $R + r$ closely approximate to the average interatomic distances in ferromagnetic combinations as determined by Forrer [Ahar, 3224 (1933)].</p>																																																			
<p>ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION</p> <p>10000 11000 12000 13000 14000 15000 16000 17000 18000 19000 20000 21000 22000 23000 24000 25000 26000 27000 28000 29000 30000 31000 32000 33000 34000 35000 36000 37000 38000 39000 40000 41000 42000 43000 44000 45000 46000 47000 48000 49000 50000 51000 52000 53000 54000 55000 56000 57000 58000 59000 60000 61000 62000 63000 64000 65000 66000 67000 68000 69000 70000 71000 72000 73000 74000 75000 76000 77000 78000 79000 80000 81000 82000 83000 84000 85000 86000 87000 88000 89000 90000 91000 92000 93000 94000 95000 96000 97000 98000 99000</p>																																																			

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357.133 : 538.114 2984
On the atomic magnetic moments of Fe, Co and Ni.
GALPERIN, F. M., C.R. Acad. Sci. URSS, 93 (No. 3)
211-13 (1964).—Stoner's criterion for ferromagnetism
[Abstr. 2726 (1939)] is combined with the results of a
previous paper [Abstr. 2953 (1947)] to deduce a formula
for the magnetic moment. The values calculated from
this formula agree closely with the experimental values.
L. R. G.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

FROM SOURCE

COLLECTOR

RECEIVED DATE AND TIME

Investigation of the Paramagnetic Susceptibility of Alloys of
Conversion Metals With Tellurium (original sent in Russian),
F. M. Gajdarin and T. M. Perekhvalov; Rysn. Academy Sc.
(USSR) '48 (60-1 Tri-Mihly); pp 18-22; 4 illus. 1 lb, 2 eq.

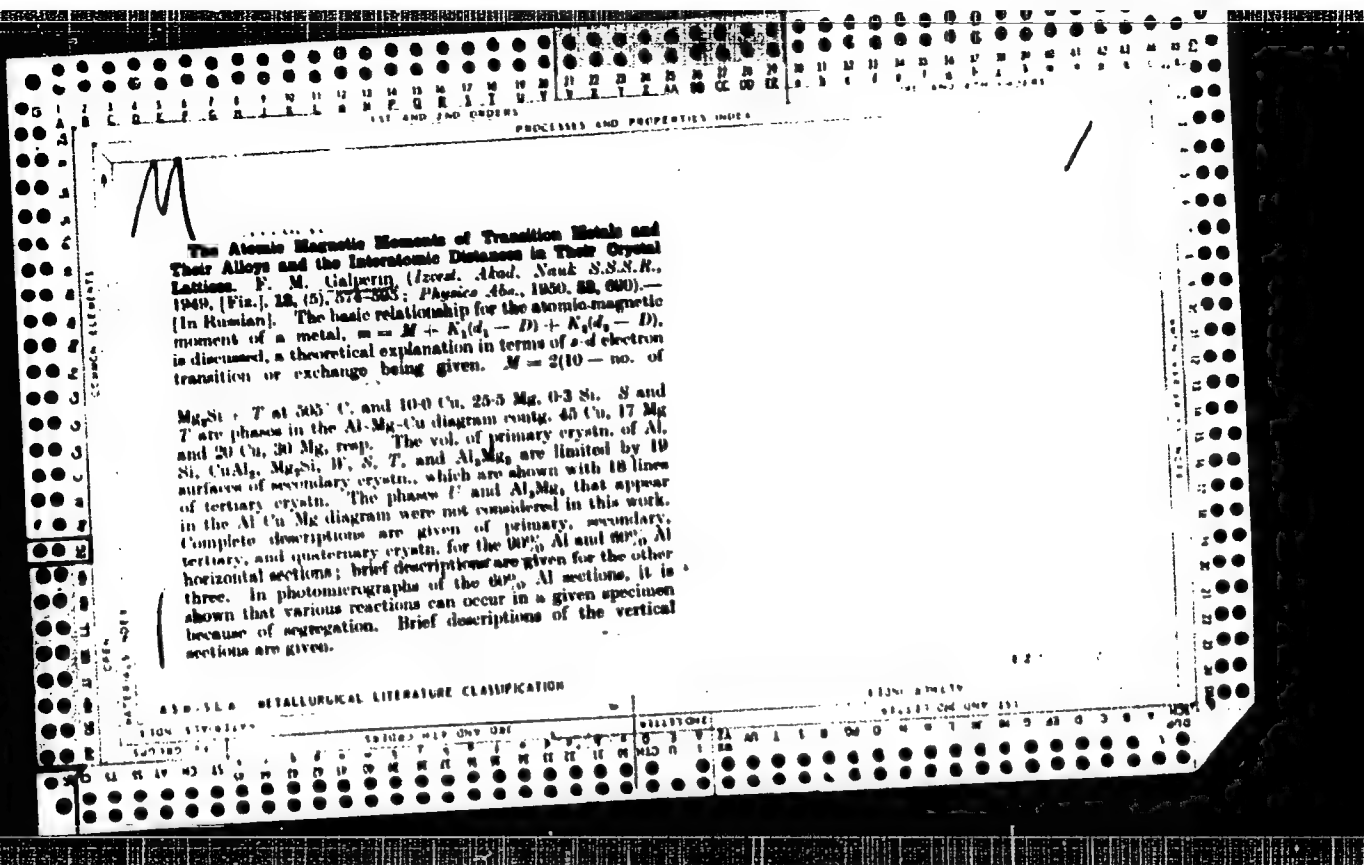
Alloys of vanadium, chromium, cobalt, and nickel with tellurium were obtained by the method of sintering in a vacuum of finely dispersed, well-mixed powders, pressed into small cylindrical forms. The paramagnetic susceptibility of the obtained alloys was measured by the somewhat modified paramagnetic rule established by N. Buchanin. A ring of phosphor bronze was here substituted with a horizontal spring with two mirrors at its ends (in order to increase the sensitivity of the measuring system). The lower end of the glass ampoule, containing the powder of the investigated alloy, was inserted between the poles of the electromagnet, the upper end was attached by a suspension to the spring. The oscillations of the spring were observed when the current was switched

on into the electromagnet. The different field squares ($H_1^2 - H_2^2$) in the lower and upper points of the ampoule were determined according to the known susceptibility for water contained in the ampoule, and the following formula for susceptibility $\chi^{(3)}$ was established:

$$\chi = \frac{2lf}{m(H_1^2 - H_2^2) 1.019},$$

where l - the length of the pole measured in centimeters, m - weight of the substances in grams, and f - the force, by which the specimen is pulled into the field measured in milligrams. The pole (l) was considerably long, so that an increase or a slight reduction of it should not affect the waiving of the spring (i.e., force f). Alloys of VTe, Cr - Te, CoTe and NiTe were examined under X ray, and it was found that the latter contain crystal lattices of the nickel arsenide type with various parameters. The lattices of VTe alloy are different from the latter but, as yet, have not been identified. (3)

15-2-70



PA 46/49T95

GAL'PERIN, F. M.

USSR/Physics

May 49

Magnetic Moments, Atomic

"Atomic Magnetic Moments of Metals of the Ferric Group and Interatomic Intervals," F. M. Gal'perin, 9 pp

"Zhur Eksper i Teoret Fiz" Vol XIX, No. 5

Studies relationship between (1) atomic magnetic moments of solid, face-centered, cubical ferric metals (2) interatomic distances in the latter. Shows that a strong relationship exists. Zone theory of metals explains this connection and proves its necessity. Submitted 3 Jan 49.

46/49T95

CA

Magnetic properties of chromium tellurides. F. M. Gal'perin and T. M. Perekalina. *Zhur. Eksp. Teori. Fiz.* 19, 470-2(1949).—Alloys with up to 70 at. % Te were obtained by sintering under slow heating for 6 hrs. and keeping at 1100° for 1 hr.; higher sintering temp. or longer time does not change the magnetic properties. The magnetization I was measured as a function of the magnetic field H at 20° and at -196°. The Cr-Te alloy becomes ferromagnetic at as low as 1 at. % Te. The satn. I_s increases proportionally to the Te content up to 50 at. % Te. The alloy corresponding to the formula CrTe has the max. magnetic satn., 314 gaussers at 20° and 447 at -196°, which is much higher than the figure of Gaillard, 74.57 (C.A. 40, 4628°, 5613°). At Te contents above 50 at. %, I_s falls rapidly to zero. At the lower temp., stronger fields are necessary to attain satn. than at room temp. The temp. dependence of I_s is the same for all Te contents. The Curie points of alloys with less than 50 at. % Te are very close; in alloys with higher Te contents, the Curie points are much lower, and vary strongly with the Te content. By x-ray examn., all alloys have the same NiAs-type structure, i.e. the same structure as CrTe. Addn. of Cr to this alloy results in a solid soln. of Cr in CrTe, apparently of the interstitial kind. The variation of the lattice const. is very slight. Addn. of Te to CrTe gives an apparently substitutional solid soln. of Te in CrTe, with strong decrease of the lattice const. The two-phase region Cr + solid soln. of Cr in CrTe exists up to 15 at. % Te. N. Thon

USSR/Engineering - Alloys

Physics - Paramagnetism

1 Nov 49

"Investigating Paramagnetic Susceptibility of Alloys of Transitional Metals With Tellurium," F. M. Galperin, T. M. Perekalina, 4, pp

"Dok Ak Nauk SSSR" Vol LXIX, No 1-8-14-21

Studied alloys VTe, CrTe, CoTe, and NiTe. Graphs show molar susceptibility of alloys versus temperature (in range 200-600° K) for various values of Te in atomic %. Also shows graph of magnetic induction I versus magnetic field strength H (0-8,000 oersteds) and temperature T (0-400° K). Table shows atomic

156T18

USSR/Engineering - Alloys (Contd)

1 Nov 49

dimensions in angstroms for various atomic percentages of Te. Submitted 9 Sep 49 by Acad A. F. Ioife.

GALPERIN, F.M.

156T18

CAL'PERIN, F. M.

anisotropy as function of concentration of components and regularity of alloys. Shows that, in one system of Ni-Mn alloys, two entirely opposite phenomena are possible: increase in constant of magnetic anisotropy with increasing degree of regularity (for some concentrations) and its decrease with increasing degree in regularity (for other concentrations). Submitted 18 Jul 49.

155T76

USSR/Physics - Magnetic Moments, Atom (Contd) Jan 50

155T76

Experimentally measured and then calculated atomic magnetic moments of Ni-Mn alloys and of a well-regulated alloy of stoichiometric composition $M_{13}Mn$. Found calculated and experimental values to be in satisfactory agreement. Studied constant of magnetic

155T76

"Zhur Eksper i Teoret Fiz" Vol XX, No 1

"Influence of Regularity (Orderliness) in the Structure of Nickel-Manganese Alloys Upon Their Atomic Magnetic Moments and Upon the Constant of Anisotropy," F. M. Gal'perin, T. M. Perekalina, 11 pp

USSR/Physics - Magnetic Moments, Atom Alloys Jan 50

GAL'PERIN, F. M.

USSR/Physics - Steel, Chromium
Low Temperature Research Feb 50

1567102
"Influence of Low Temperatures Upon the Magnetic
Properties of High-Chrome Steel," F. M. Gal'perin,
F. M. Perakalme, 10 pp

PI "Zhur Tekh Fiz" Vol XX, No 2

Discusses magnetic saturation of steels in liquid
oxygen (nitrogen); variation in saturation during
secondary cooling in liquid oxygen or nitrogen, and
in liquid helium, time and speed of magnetic conver-
sion at low temperatures. Curie point for steels
worked at low temperatures; residual induction;

1567102

USSR/Physics - Steel, Chromium (Contd) Feb 50

coercive force; hardness; and specific resistance.
Results obtained show that high-chrome steels at low
temperatures vary considerably their magnetic and
electric properties and hardness. New fact estab-
lished and studied: magnetic saturation is consid-
erably increased in steels during annealing from low
to room temperatures. Submitted 15 Apr 49.

Consulting Prof., 1st Chief Directorate,
Council Ministers, -cl950-

1567102

Chem Abstracts

General and Physical Chemistry
(2)

Investigation of magnetic properties of manganese alloys with nickel and cobalt. F. M. Gal'perin. *Doklady Akad. Nauk S.S.S.R.* 78, 815-16 (1967). The at. magnetic moment, m , of ellipsoidal samples of Mn-Ni and Mn-Co was detd. as a function of the concn. of Mn, and the results are compared with those of Hulm (C.A. 26, 4967). For Mn-Ni the moment increased up to about 10 at.% Mn and then decreased rapidly. For Mn-Co, m decreased as the concn. of Mn increased; m decreased more rapidly for concns. of Mn > 10 at.%. Values for m for 100 at.% Mn, 100 at.% Co, and 100 at.% Ni were obtained by extrapolation from these curves. The results agreed with values obtained from G's. formula for m in a metal with face-centered cubic lattice or with close-packed hexagonal lattice: $m = 2m_0 + 7.7(d - D)$, where $m_0 = 10 - n$ (n is the full no. of electrons in the 3d and 4s shells of an individual atom), d is the least interat. distance, and D is a const. of the metal.
Helen H. Dunlap

1757

CA

2

Investigation of the magnetic properties of well-ordered alloys. F. M. Gal'perin. *Doklady Akad. Nauk S.S.S.R.* 75, 647-50 (1950); cf. *C.A.* 45, 6444c. —Five alloys were studied: Ni₂Mn, Ni₂Fe, FeCo, MnBi, and CrTe. The temp. at which the ferromagnetic alloy was formed from the components was detd. by measuring the paramagnetic susceptibility χ_m ; the optimum sintering temp. for MnBi was 315°. Heating above this causes χ_m to drop sharply; just above 400° it increases linearly. The at. magnetic moments were calcd. from the exper. values of the magnetization, and the results, given in a table, agreed satisfactorily with the values calcd. from the formulas of the author (*C.A.* 44, 3318f).

Allen H. Dunlap

GALPERIN, F. M.

PA 197T98

USSR/Nuclear Physics - Magnetic Moments

Oct 51

"Atomic Magnetic Moments and Crystalline Structures of Ferromagnetic Metals and Alloys," F. M. Galperin

"Zhur Eksper i Teoret Fiz" Vol XXI, No 10, pp 1146-1152

Uses formulas for computation of atomic magnetic moments of ferromagnetic metals and alloys to study effect of manganese and chromium on formation of magnetic moment of (a) solid solns of these elements in nickel and iron and of (b) ordered alloys, consisting of these and other nonferrous elements. Submitted 4 Oct 50.

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PERLIN, F.

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USSR/Physics - Gyromagnetic Effect 21 Feb 51

"Investigating the Gyromagnetic Effect by Classical Resonance Method," F. Gal'perin, T. Perekalina

"Dok Ak Nauk SSSR" Vol LXXVI, No 6, pp 821-823

Investigates gyromagnetic relations for electrolytic nickel prepd in vacuum at 1,000°C and for alloys CrTe and MnCu₂Al; namely, magnetization I vs fld H, amplitude \bar{A} of oscillations of metal sphere vs time, and Lande factor g. Authors were assisted by Prof I. K. Kikoin. Submitted 22 Dec 50 by Acad A. F. Ioffe.

1857102

GAL' PERIN, F.

Metallurgical Abstracts
July 1954
Properties of Alloys

Investigation of the Magnetic Properties of Ordered Alloys of the System Cobalt-Manganese. Gal'perin (Doklady Akad. Nauk S.S.S.R., 1951, 77, (6), 1142-1144; English translation). Having previously investigated ferromagnetic alloys in this system (ibid., 1950, 75, 616; M.A., 28, 10), G. has now studied experimentally the dependence of the paramagnetic mass susceptibility (χ_p) of CoMn and CoMn₂ on the annealing time (t) and temp. (T). With CoMn, χ_p increases linearly with t at 200° C.; at 400° or 600° C. there is a much more rapid initial increase and saturation is soon attained (i.e., χ_p does not change; the relaxation time τ is small). CoMn₂ reaches saturation rapidly even at 200° C.; values of χ_p are much less than the corresponding values for CoMn. The equilibrium values of χ_p for both alloys decrease rapidly with increasing T , but for the disordered alloys (quenched from high temp.) χ_p is almost independent of the temp. and very small. The graphs of $\log \tau$ versus $1/T$ are linear, as was deduced by G. from the kinetics of the ordering reaction: from these graphs the activation energies of CoMn and CoMn₂ are 16 and 18 kg.cal/mole, resp. X-ray measurements on annealed alloys showed that CoMn had a f.c.c. lattice with parameter 3.59 Å, while CoMn₂ was hexagonal with $a = 2.41$ and $c = 4.45$ Å. Superlattice lines were not detected. —G. V. H. T.

GALPERIN, F.

USSR/Physics - Ferromagnetization 21 May 51

"Variation in Ferromagnetization of Saturation of Steel Under Elastic All-Sided Compression," F. Galperin

"Dok Ak Nauk SSSR" Vol LXXVIII, No 3, pp 451, 452

Investigates discrepancies between theoretical formulas, relating atomic magnetic moment to interatomic distance in cryst pattern, and exptl results. Galperin finds saturation magnetization decreases under at bulk compression. Expts were performed by P. T. Oreshkin under direction of

USSR/Physics - Ferromagnetization 21 May 51
(Contd)

Galperin and Professors Ye. I. Kondorskly and L. F. Vereshchagin. Submitted by Acad L. D. Landau 28 Mar 51.

1867103

GAL'PERIN, F.M.

Gal'perin, F. M.

71c

Investigation of the gyro-magnetic effect in a chromium-
titanium alloy by a classical resonance method. F. M.

Gal'perin and T. M. Perkalina. Izv. Akad. Nauk
S.S.S.R., Ser. Fiz. 16, 724-7 (1953); cf. C.A. 46, 5423.

A method is described in which a small sphere is suspended
in a vacuum tube located inside a solenoid spool. A mirror
is attached to the suspension wire, and the reflected light
falls on 2 photoclements which trigger alternately 2
thyristors in an inverter circuit when the sphere passes
through zero; thus the direction of current in the solenoid
is changed. Details of compensation for the earth mag-
netic field and the suspension wire are also given. The
Lange factor is calcd. from the formula $g = (4/\pi)(H/A_0)$
 $(2m/e)\chi(\omega^2/0)(1/k^2)$, where H is the field strength, A_0
the resonant amplitude of the light spot from the mirror
on a scale at the distance l in cm., χ the susceptibility, k the
moment of inertia relative to the vertical axis, δ the decre-
ment of the free oscillations. $g_{Cr} = 1.97 \pm 0.01$; $g_{Ti-Cr-Al}$
 $= 1.99 \pm 0.01$. Cr-Ti was remelted in vacuum at 1800°

for 6-8 hrs. in a quartz tube. The molten alloy was cast
from the upper part through a narrow opening into a lower
part. After it was cooled, the quartz was removed with
HF. $g_{Cr} = 1.84 \pm 0.02$. S. Pekiner

PA 069T52

GALPERIN, F.

USSR/Physics - Ferromagnetism

1 Feb 53

"Magnetic Moments and Crystalline Structures of
Ferromagnetic Metals and Alloys," F. Galperin

DAN SSSR, Vol 88, No 4, pp 643-646

A number of works were published in foreign literature on "ferromagnetism" of ferrites as radically different from ferromagnetism in general (see L. Neel, Ann. de Phys., 3 (1948)). Attempts to demonstrate that this difference does not exist and that the simple formula derived by author (see Iz Ak Nauk SSSR, Ser Fiz, 13 (1949)) may be generalized to ferrites. Presented by Acad L. D. Landau 12 Nov 52.

249T52

GAL'PERIN

F.M.

The effect of hydrostatic pressure on the magnetic saturation of iron at the temperature of liquid nitrogen. F. M. Gal'perin, S. Larin, and A. Shishkov. *Doklady Akad. Nauk S.S.S.R.* 89, 419-22(1963).—An Armon-Fe rod 670 mm. long and 5.75 mm. in diam. was subjected to hydrostatic pressure up to 2000 atm. by a gas within a nonferromagnetic bronze compression chamber in a field of 1800 tesla. The magnetic bronze compression chamber in a field of 1800 tesla contained 2000 oersteds and at temps. of 20° and -196°. The measuring circuit contained 2 coils connected in opposition to compensate for changes in the magnetizing current. The changes in magnetic flux as the pressure was decreased were observed by Grassot-type fluxometer readings. Satn. magnetization of the Fe was 1690 gauss. The value of $\Delta\psi/\psi \Delta p$, where ψ was the flux at 1 atm., was detd. from 22 measurements and was $0.53 \pm 0.25 \times 10^{-4}/\text{atm.}$ at -196° and 0.24 ± 0.1 at 20°. The quantity $d\sigma/dp$, per unit mass and $x = 5.82 \times 10^{-4}/\text{atm.}$ is the coeff. of compressibility, was calcd. from the above values and was -1.39 ± 0.26 and $-1.70 \pm 0.1 \times 10^{-4}/\text{atm.}$, resp. A formula previously obtained by G. for the at. magnetic moment of Fe was used to obtain the calcd. value $d\sigma/dp = -1.49 \times 10^{-4}/\text{atm.}$ A.G. Guy.

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GAL'PERIN, F. M.

Paramagnetism of certain ferrites. F. M. Gal'perin, O. Dimitrakova, and L. Molodtsova. *Doklady Akad. Nauk S.S.S.R.* 94, 833-4 (1964).—The paramagnetism of Mn, Co, Mg, Co-Mn, and Co-Zn ferrites and of Vektolit (0.8 Fe₂O₃·0.44 Fe₃O₄·0.26 Co₂O₃) was studied in an app. described earlier (C.A. 44, 994d). The relation of $1/x$ (x is the permeability) to temp. is given. J. Rovtar Leach

evaluation B-81595,

GAL'PERIN, F.M.

62
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✓ The g-factor of some ferromagnetics. P. M. Gal'perin, I. Kupriyakov, and B. Panfilov. ~~Doklady Akad. Nauk S.S.S.R.~~ 95, 740-51(1954).--The ferromagnetic materials, MnO , $(Fe_2O_3)_x$ and $(Mn, Zn)O.Fe_2O_3$, were studied. They were obtained by the method of reaction in the solid phase, providing practically pure substances. The g-factor was measured by spectroscopic spin. in a 3-cm. wave-length range. The error involved in calcn. of the g-factor rests on the inaccuracies in measuring the field and the wave length. The latter was detd. with an accuracy up to 0.1%. The error in detg. the field amounted to little more than 1%. The max. error was equal to 1%, which for $g = 2$ amounts to approx. 0.02. Gladys S. Blaine

Gal'perin, F. M.

Atomic magnetic moments of ferromagnetic metals and alloys. F. M. Gal'perin. *Zhur. Eksp. i Teor. Fiz.* 31, 150-2 (1956); *ibid.* 32, 49, 160 (1957). The following empirical equations are established for the magnetic moments m_f (ferromagnetic) and m_p (paramagnetic): For metals $m_f = N_f + N_p - 2 + E_0 + i + \Delta E$ and $m_p = N_f + N_p - 2 + E_0 + 1 + i + \Delta E$, where N_f and N_p are the nos. of unpaired d and f electrons per atom, $i = 1$ for Gd, Fe, Co and $= 0$ for Ni, Dy, and Eu. $E_0 + \Delta E = 0.641 (\alpha_1(r_1 - R) + \alpha_2(r_2 - R))$, where α_1 is the no. of nearest and α_2 the no. of next nearest at. neighbors, r_1 and r_2 the corresponding interat. distances, R an empirical const. and a function of Z . For alloys $m_f = N_f - 2 + i + \Delta E$ and $m_p = N_f - 2 + 1 + \Delta E$, with $i = 0$ for Gd, Fe, and Co and $= 1$ for Ni, Dy, and Er. The results agree well with measurements of metals and alloys, such as MnAs, MnBi, MnCuAl, CrFe, CrSb, CrO, NiFe, and NiAl. A formula is also given for Curie points and their displacement under pressure. This formula agrees with expts. on Ni, Co, Fe, Gd, Tb, Dy, Ho, Er and Tu.

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GAL'PERIN, F. M.

Atomic magnetic moments of ferromagnetic metals and alloys, F. M. Gal'perin, Soviet Phys., JETP 4, 147-50 (1957) (English translation). - See C.A. 51, 20A.

B. M. R.

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PA - 2096

AUTHOR
TITLE

GAL'PERIN F.M.

The s-d Exchange in Ferromagnetic Metals.

(s-d obmen v ferromagnetnykh metallakh -Russian)
Zhurnal Eksperim.i Teoret.Fiziki, 1957, Vol 32, Nr 2, pp 381-382 (U.S.S.R.)
Reviewed 6/1957
Received 5/1957

PERIODICAL

ABSTRACT

Vonsovskiy has given us an exact elaboration of the theory of the s-d exchange. His results contain exchange integrals for the exchange between the s- and the d-electrons of the same atom (I_0) and between neighboring electrons (I), as well as an integral for the transmission of an s-electron. At the present state of theory it is not possible to compute these integrals, because a qualitative comparison with the experiment is impossible. The paper under review aims at demonstrating that it is possible to compute these integrals empirically and that by substituting the thus obtained values into the Vonsovskiy relationships we obtain for pure ferromagnetic metals a satisfactory coincidence with the experimental data. The author starts out from the simple and natural premise that the s-d exchange interaction depends on the distances between the electrons and on the number of the participating electrons. The approximation of the strong coupling of an s-electron is used here as example. According to the sign of the magnitude $r_1 - R$ it is possible to divide the metals into two groups. ($R = R_s + R_d$; R_s stands for the distance of the s-electron from the nucleus of any atom. R_d for the distance of a d-electron from the nucleus; r_1 for the distance between an atom and the atom closest to it; and $(r_2 - R)$ for the distance between an s-electron and the d-electron

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The s-d Exchange in Ferromagnetic Metals.

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closest to it). The author sets for the exchange integral the formula $I = 1 - \sum_i \Delta E_i$, $\Delta E_i = 0.641 n_i (r_i - R)$. The upper sign is used for the group 1 (with $(r_i/R) < 1$) and the lower sign for the group 2 (with $(r_i/R) > 1$). The paper concludes by giving explicit expressions for the exchange integral, the magnetic moments of the atoms, the paramagnetic moments of the atoms, the exchange energy, and for the Curie point. A Chart contains the properties of the pure ferromagnetic elements. (1 Chart).

ASSOCIATION
PRESENTED BY

SUBMITTED 22.10.1956

AVAILABLE Library of Congress

Card 2/2

AUTHOR:

GAL'PERIN, F. M.

Gal'perin, F. M.

TITLE:

A Note on the Magnetic Momenta and the Curie-Constants of
Ferromagnetic Alloys (Magnitnyye momenty i postoyannyye Kyuri
ferromagnitnykh splavov)

PERIODICAL:

Izvestiya AN SSSR Seriya Fizicheskaya, 1957, Vol. 21, Nr 9,
pp. 1323-1326 (USSR)

ABSTRACT:

The paper refers to former publications of the author
(ZhETF, 19, 451, 1949 and 31, 150, 1956), where the empiric
relations for the magnetic momenta of the atoms, the Curie points
and other properties of pure ferromagnetic metals were given.
Here analogous relations for ferromagnetic alloys are proposed
and it is shown at the example of iron-chromium and iron-nickel
alloys, which have been investigated according to the neutrono-
graphic method by C.G.Shull and M.K.Wilkinsion (Phys.Rev. 97,
304, 1955), that these relations are in accordance with experiment.
At first, the approximation of the strongly bound electrons is
studied. It is shown that the distances between the electrons
are very small and that, subsequently, the quantities dependent
on it, the magnetic momenta of the atoms, the Curie points and
other can be expanded into a series according to the powers of

Card 1/2

A Note on the Magnetic Momenta and the Curie-Constants of Ferromagnetic Alloys. 48-9-24/26

the small parameters, and that it is sufficient to consider only the first term of the series, implying, that the quantities enumerated above can be considered to be linearly dependent on the distances between the electrons. The equations for the magnetic moment of the atom of the component A and of the alloy in the paramagnetic state, and the Curie constant per gram atom of the component A in the general state and the Curie constant per gram atom of the alloy is given. A table is added for the computation of the quantities under investigation and a diagram, containing a comparison of the computed values with the experimental ones. There are 1 table, 2 figures and 12 references, 7 of which are Slavic.

AVAILABLE: Library of Congress

Card 2/2

AUTHOR: Gal'perin, F. M.

56-34-4-35/60

TITLE: Interatomic Distances in Ferromagnetics (Mezhatomnyye
rasstoyaniya v ferromagnetikakh)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958,
Vol. 34, Nr 4, pp. 1000 - 1003 (USSR)

ABSTRACT: The present report discusses the analogy between the dependence of the atomic magnetic moments of ferromagnetic metals and alloys on the concentration of electrons per atom, as found by the author, (complete number of s and d electrons) and the same dependence of a certain quantity on the dimension of the length. This quantity is, in the case of pure metals, equal to the difference between the distance r_1 of the nearest neighbors of the first sphere of coordination of a crystal lattice and a certain constant R of the metal. This quantity is also expressed for alloys by an analogous difference. The author investigates the transition elements with $Z = 21$ to $Z = 29$. For these elements it holds that $R = 0,13 [(Z/2)^2 - (13,75 + 1)Z + 26(1 - 1) + 235,525]$, where for $Z \leq 26$ $l = 0$ and for $Z \geq 26$ $l = 1$ is true. A diagram shows

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Interatomic Distances in Ferromagnetics

56-34-4-35/60

the values of r_1 , R , $r_1 - R$, and the concentrations C of the electrons and the lattice types of the metals. The metals are subdivided into 2 groups. The first group comprises Co, Fe etc. with $r_1 - R_{AB} < 0$, the second Ni and other metals for which it holds that $r_1 - R_{AB} > 0$. The quantity $r_1 - R_{AB}$ as a rule depends linearly on C . Also the corresponding points for not ordered alloys fit on to straight lines. Also the alloys are subdivided in a similar manner into 2 groups, according to whether the difference $r_1 - R_{AB}$ is positive or negative. Here r_1 denotes the distance between the nearest atoms of the transition metals in the lattice of the alloy and it is true that $R_{AB} = \lambda_A R_A + \lambda_B R_B$. Here λ_A and λ_B denote the atomic concentration of the components A and B respectively of the alloys, and R_A and R_B are calculated according to the formula mentioned above. The alloys Ni-Fe, Fe-Co, Co-Cu, Fe-Cr, Ni-Cu, FeAl, CoAl, NiAl react like pure metals. There are 2 figures and 5 references, 2 of which are Soviet.

SUBMITTED:
Card 2/3

October 25, 1957 (initially) and January 29, 1958 (after revision)

Interatomic Distances in Ferromagnetics

56-34-4-35/60

1. Ferromagnetic materials--Crystal structure

Card 3/3

24(3)

AUTHOR:

Gal'perin, F. M.

SCV/48-23-3-24/34

TITLE:

Atomic Magnetic Moments, Curie Points, Exchange Energy, and Paramagnetic Susceptibility of Ferromagnetics (Atomnyye magnitnyye momenty, tochki Kyuri, obmennaya energiya i paramagnitnaya vospriimchivost' ferromagnetikov)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 3, pp 407-413 (USSR)

ABSTRACT:

As there are no theoretical relations available for the quantitative calculation of the magnetic fundamental properties of ferromagnetics, empirical relations are suggested in the present paper. The elements from ^{21}Sc to ^{29}Cu were investigated. According to the author's opinion it is possible to characterize each of these elements by the constant R which has the dimension of one length (Ref 1). Table 1 gives the numerical values of this constant, the values of the constants of formulae (1) and (6), and the magnetic moments for a number of transition metals. Table 2 shows the values of several magnetic parameters of ferromagnetic metals. These two tables indicate that the calculated, and the experimental

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Atomic Magnetic Moments, Curie Points, Exchange
Energy, and Paramagnetic Susceptibility of Ferromagnetics

SOV/48-23-3-24/34

values of the quantities investigated are in good agreement. Furthermore, non-ordered ferromagnetic alloys Fe-Ni, Fe-Co, Fe-Cr, and Fe-V were investigated. The first and the third alloy were investigated by the neutronographical method (Ref 14). This method was used for measuring the difference of the magnetic moments $m_A - m_B$, and the ballistic method for measuring \bar{m} in this investigation. The combination of these two methods permits to determine each "individual" moment of the components for itself. Figure 1 gives the calculated and experimental values of the moments for the Fe-Ni-alloy with a lattice of the A2 and A1 type. An interrupted line shows the course of the moments m_{Fe} and \bar{m} in the intermediate range with the lattices A1 + A2. At concentrations of 100 at% nickel up to approximately 67 at% nickel the moment m is represented by a straight line. The deviation from it begins at 67 at% Ni. In the case of equal concentrations the straight-lined course of the moment $m_{Fe(-)}$ represented by an interrupted line is followed by a curvilinear one, and apart from this $r_1 > R$,

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Atomic Magnetic Moments, Curie Points, Exchange Energy, and Paramagnetic Susceptibility of Ferromagnetics SOV/48-23-3-24/34

where $m_{Fe(-)}$ is the value m_{Fe} . This was obtained from the difference $m_{Fe} - m_{Ni} < 0$ by the neutronographical method. The values m_{Fe} given on the uninterrupted curve do, however, correspond to the difference $m_{Fe} - m_{Ni} > 0$. Similar results were obtained for the Fe-Co alloy (Fig 2). Figure 3 shows the magnetic moments of the Fe-Cr alloy, and figure 4 of the Fe-V alloy. Herefrom can be seen that in the case of an increase in the Cr- and V-concentration their moments increase from $1 M_B$ to 0. They attain 0 at those concentrations the parameter of the alloy lattice of which $a = \bar{R}$ (40 at% Cr and 20 at% V). The deviation from the straight-lined course of m_{Fe} begins at equal concentrations. In the case of solid solutions, e.g. Cr in Co and Ni, the Cr-moment varies from $1 M_B$ to $6.40 M_B$ in Co-Cr alloys, and up to $3.40 M_B$ in Ni-Cr alloys. In this connection the variation of m_{Cr} to 100 at% Cr shows the same

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Atomic Magnetic Moments, Curie Points, Exchange Energy, and Paramagnetic Susceptibility of Ferromagnetics SOV/48-23-3-24/34

quantities as in the experiments with weak solid solutions for the variation \bar{M} (Ref 7). There are 4 figures, 2 tables, and 19 references, 8 of which are Soviet.

Card 4/4

18(7),24(3)

AUTHOR:

Gal'perin, F. M.

SOV/56-36-4-37/70

TITLE:

On the Connection Between Structural and Magnetic
Parameters of Transition Metals (O svyazi strukturnykh i
magnitnykh parametrov perekhodnykh metallov)

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959,
Vol 36, Nr 4, pp 1212-1223 (USSR)

ABSTRACT:

In the present paper the author uses the semiempirical method for the purpose of investigating the connection between structural parameters such as lattice type, interatomic distances, coordination numbers, etc, and the magnetic parameters (atomic magnetic moment, Curie point, Curie constant) for pure transition elements (Cr, Mn, Fe, Co, Ni) and for a number of their ferromagnetic ordered alloys and chemical compounds. First, the ferromagnetic atomic magnetic moment m of such metals and their alloys is investigated, and in a table the experimentally and theoretically determined moments for Ni, Co and Fe as well as for a large number of their alloys are compared besides other parameters. Agreement is good. The semiempiric qualitative relations are set up which describe a connection between structural and magnetic parameters. According to

Card 1/2

On the Connection Between Structural and Magnetic
Parameters of Transition Metals

SCV/56-36-4-37/70

Vonsovskiy and Vlasov the following is obtained for m
(Ref 15): $m = N_d + 0.15 n_s (J_o/J-4)/(1 - 2J_s/J)$, where J_o
and J denote the exchange integrals between s- and d-electrons,
and J_s the s-electron transfer integral. The magnetic
moments and other parameters are calculated for a) pure
ferromagnetic metals, b) ferromagnetic ordered alloys, c)
ferromagnetic chemical compounds of the NiAs-type structure,
d) ferromagnetic Heusler alloys, and e) ferromagnetic weak
solid solutions, and compared with experimental data.
Finally, the connection between magnetic moment and Curie
constant, Curie point and exchange energy is investigated.
The semiempiric and experimental values do not, on the
whole, differ essentially from each other. There are 2
tables and 27 references, 9 of which are Soviet.

SUBMITTED: October 14, 1958 (initially) and January 10, 1959 (after
revision)

Card 2/2

S/020/60/132/04/18/064
B014/B007

AUTHOR: Gal'perin, F. M.

TITLE: On the Number of 3d Electrons²¹ in Transition Metals

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 4, pp. 801-802

TEXT: In the introduction the relationship between the number of 3d electrons of the transition-metal atoms and the crystal structure of these metals is pointed out. The present paper aims at showing that this relationship between the structure and the number of 3d electrons may be expressed by the relation (1). In Table 1 the numerical values computed by means of (1) and experimentally determined numerical values for the 3d electrons of various elements are given. Good agreement of these values is found. There are 1 figure, 1 table, and 5 references, 1 of which is Soviet.

PRESENTED: February 13, 1960, by I. K. Kikoin, Academician

SUBMITTED: February 11, 1960

Card 1/1

✓B

GAL'PERIN, F.M.; DEMIN, V.F.; SMIRNOV, A.A.; KHESTANOV, R.Kh.

Nuclear magnetic resonance in nickel. Izv. AN SSSR. Ser. fiz.
27 no.12:1458-1459 D '63. (MIRA 17:1)